

- 14 -

What is claimed is:

1. A power wheelchair comprising:
 - a frame;
 - a pair of drive wheels, each wheel having an axis of rotation;
 - motors for driving respective drive wheels;
 - a pair of suspension arms, one on each side of the frame, each arm pivoted to the frame about a suspension axis rearward of the axes of rotation of the drive wheels, each of the drive wheels and its associated motor being mounted on a respective one of the suspension arms;
 - at least one ground-engaging idler wheel connected to said frame in front of said drive wheels; and
 - at least one anti-tip wheel mounted to the wheelchair so as to be in contact with the ground in a normal resting state of the wheelchair and connected to one of the drive wheels, the connection between the anti-tip wheel and the drive wheel permitting the axis of rotation of said anti-tip wheel to move relative to said frame in response to and in an opposite direction from movement of the axis of rotation of said one drive wheel relative to said frame.
2. The power wheelchair of claim 1, further comprising a second anti-tip wheel, said anti tip wheels being connected to respective ones of said drive wheels.
3. The power wheelchair of claim 1, wherein said at least one anti-tip wheel is pivoted to the frame about a suspension axis forward of its center.
4. The power wheelchair of claim 1, wherein said at least one anti-tip wheel is mounted on a respective one of the suspension arms rearward of said suspension axis.
5. The power wheelchair of claim 1, further comprising a resilient suspension between each said suspension arm and said frame.

- 15 -

6. The power wheelchair of claim 5, wherein each said resilient suspension further comprises combination spring-strut beams for governing arcuate upward movement of said anti-tip wheels relative to said frame.
7. The power wheelchair of claim 1, wherein each said suspension arm is independently attached to said frame.
8. The power wheelchair of claim 1, wherein said frame includes an upper covering shell.
9. The power wheelchair of claim 8, wherein the frame supports a seat.
10. The power wheelchair of claim 1, wherein the distance between said anti-tip wheels and the ground is adjustable.
11. A power wheelchair comprising:
 - a frame;
 - a pair of drive wheels rotatable about transverse axes;
 - motors pivotally connected to said frame, the motors for driving respective drive wheels;
 - at least one idler wheel attached to the frame so as to be positioned forward of the drive wheels; and
 - anti-tip wheels mounted to the wheelchair so as to be in contact with the ground and rearward of said drive wheels, the anti-tip wheels being fixedly connected to said motors for up-and-down motion relative to said frame in opposite directions from said motors.
12. The power wheelchair of claim 11, wherein each drive wheel is independently attached to said frame.
13. The power wheelchair of claim 11, wherein said frame includes an upper covering shell.

- 16 -

14. The power wheelchair of claim 13, wherein said frame supports a seat.
15. The power wheelchair of claim 11, further comprising combination spring-strut beams for governing arcuate upward movement of said anti-tip wheels relative to said frame.
16. The power wheelchair of claim 11, further comprising means for adjusting the distance between said anti-tip wheels and the ground.
17. A power wheelchair comprising:
 - a frame;
 - a pair of ground-contacting drive wheels disposed on opposite sides of the frame;
 - a pair of motors, each driving a respective drive wheel;
 - a pair of suspension arms, one on each side of the frame, each pivoted to the frame, each of the drive wheels and its associated motor being mounted on a respective one of the suspension arms;
 - a pair of springs, each acting in compression between the frame and a respective one of the suspension arms so as to urge the drive wheel downward relative to the frame;
 - at least one ground-contacting idler wheel disposed at the front of the frame; and
 - at least one anti-tip idler wheel mounted to the rear of the frame, the at least one anti-tip idler wheel being mounted so as to be in contact with the ground when the wheelchair is resting on level ground on the drive wheels and the at least one front idler wheel, said at least one anti-tip idler wheel being mounted such that reverse acceleration of the wheelchair urges upward movement of the anti-tip idler wheel.
18. A power wheelchair according to claim 17, wherein said at least one anti-tip idler wheel is connected to a respective suspension arm such that

- 17 -

movement of said at least one anti-tip idler wheel is responsive to movement of said suspension arm.

19. A power wheelchair according to claim 18, wherein there are two anti-tip idler wheels, one of the anti-tip idler wheel mounted on either side of said frame, wherein the suspension arms are independently mounted, and wherein each said anti-tip idler wheel is connected to an associated suspension arm.

20. A power wheelchair according to claim 17, wherein the drive wheels are mounted with their axes of rotation fixed relative to the suspension arms and located forward of the pivot point of the suspension arms.

21. A power wheelchair according to claim 17, wherein the motors are mounted on the suspension arms forward of the drive wheels.

22. A power wheelchair according to claim 17, wherein there are two anti-tip wheels, and wherein said suspension arms include a pair of pivotally-mounted rocker arms, with a respective drive wheel and anti-tip wheel mounted on each rocker arm, the rocker arm being pivotally mounted at a point between the drive wheel and the anti-tip wheel.

23. A power wheelchair according to claim 22, wherein one spring attaches to each rocker arm between the drive wheel and the anti-tip wheel.

24. A power wheelchair according to claim 17, further comprising a second pair of springs urging the anti-tip idler wheels downwards relative to the frame.

25. A power wheelchair according to claim 17, wherein said frame includes an upper covering shell.

26. A power wheelchair according to claim 17, further comprising two said front idler wheels, one at each side of the frame.

- 18 -

27. A power wheelchair according to claim 26, further comprising a crossbar that extends across the front of the frame, the crossbar being pivotally mounted to the frame about a central fore-and-aft axis, the crossbar carrying the front idler wheels at each end.

28. A power wheelchair comprising:

a frame;

a pair of ground-engaging drive wheels rotatable about transverse axes;

a resilient suspension connecting said drive wheels to said frame for pivotal movement of said axes of said drive wheels about a suspension axis fixed relative to said frame;

at least one ground-engaging idler wheel connected to said frame and located forward of said drive wheels; and

at least one anti-tip wheel rearward of said drive wheels and mounted to the wheelchair so as to be in contact with the ground while the wheelchair is at rest;

wherein said at least one anti-tip wheel is connected to one of said drive wheels for pivotal movement relative to said frame in the same direction of pivoting as said drive wheel axis, the mounting of said at least one anti-tip wheel adapted to move the said at least one anti-tip wheel upward relative to the frame when the rear of said frame moves upward relative to said ground-engaging idler wheels.

29. The power wheelchair of claim 28, wherein the axis of said at least one anti-tip wheel is rigidly connected to said axis of said one drive wheel.

30. The power wheelchair of claim 28, wherein said drive wheel and said at least one anti-tip wheel pivot as a unit about a common suspension axis.